

CLAIMS:

- 1 1. A display comprising:
2 a back plane layer; an emissive pixel layer; a holographic film layer; and a cover plate
3 layer;
4 said layers being combined to form a display screen having a structure so that at least
5 some light is emitted from the emissive pixel layer into the ambient environment;
6 said holographic film layer including patches of holographic film having a front and back
7 side, the front side of the holographic film patches facing the cover plate layer and adjacent
8 structures formed thereon to trap at least some incident light therebetween.
- 1 2. The display of claim 1, wherein the adjacent structures comprise moth-eye-like shaped
2 adjacent structures.
- 1 3. The display of claim 1, wherein the adjacent structures comprise pyramid-like shaped
2 adjacent structures.
- 1 4. The display of claim 1, wherein the adjacent structures comprise pillar-like shaped
2 adjacent structures.
- 1 5. The display of claim 1, wherein the display comprises a flat panel display.
- 1 6. The display of claim 1, wherein said layers are combined to form a display screen
2 having a structure so that at least some light is emitted from the emissive pixel layer into the
3 ambient environment via openings in the holographic layer and through the cover plate layer.

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1 7. A method of trapping at least a portion of light scattered by an inside face of a cover
2 plate of a display comprising:
3 absorbing at least some of the scattered light incident on the front side of the
4 holographic film; and
5 reflecting the remaining scattered light incident on the front side of the holographic film
6 in a manner so as to be again incident upon the front side of the holographic film after
7 reflection.

1 8. The method of claim 7, and further comprising:
2 for the light again incident upon the front side of the holographic film after reflection,
3 absorbing at least a portion of the light again incident upon the front side of the
4 holographic film; and
5 reflecting the remaining light again incident in a manner so as to be yet again
6 incident upon the front side of the holographic film after reflection.

1 9. The method of claim 7, wherein absorbing at least some of the incident scattered light
2 comprises absorbing a major portion of the incident scattered light.

1 10. The method of claim 9, wherein a major portion comprises a percentage of the incident
2 light approximately in the range of 90 to 98 percent.

1 11. A film layer for a display comprising:
2 a holographic film;
3 said holographic film having a front and back side;

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4 the front side of the holographic film having adjacent structures formed therein to trap
5 at least some incident light therebetween.

1 12. The film layer of claim 11, wherein the holographic film is positioned in a display so that
2 at least some light reflected backwards by the inside face of a cover plate is incident upon its
3 front side.

1 13. The film layer of claim 12, wherein the display includes at least a back plane and a
2 cover plate.

1 14. The film layer of claim 11, wherein the adjacent structures comprise at least one of the
2 following: moth-eye-like shaped structures, pyramid-like shaped structures, and pillar-like
3 shaped structures.

1 15. A method of trapping at least a portion of light incident upon the front side of a
2 holographic film comprising:
3 absorbing at least a portion of the incident light on the front side of the holographic film;
4 and
5 reflecting the remaining incident light in a manner so as to be again incident upon the
6 front side of the holographic film after reflection.

1 16. The method of claim 15, and further comprising:
2 for the light again incident upon the front side of the holographic film after reflection,
3 absorbing at least some portion of the light again incident upon the front side of
4 the holographic film; and

5 reflecting the remaining light again incident upon the front side of the
6 holographic film in a manner so as to be yet again incident upon the front side of the
7 holographic film.

1 17. The method of claim 15, wherein at least some of the light incident upon the front side
2 of the holographic film comprises light reflected backwards.

1 18. The method of claim 15, wherein absorbing at least some of the incident scattered light
2 comprises absorbing a major portion of the incident scattered light.

1 19. The method of claim 18, wherein a major portion comprises a percentage of the
2 incident light approximately in the range of 90 to 98 percent.

1 20. An article comprising:
2 a back plane, emissive pixels, holographic film patches, and a cover plate combined in
3 layers to form a display screen having a structure so that at least some emitted light is
4 transmitted into the ambient environment and so that at least some light propagating within a
5 layer that includes emissive pixels is absorbed by one or more of said holographic film
6 patches.

1 21. The article of claim 20, wherein absorbed light comprises at least one of emitted light
2 reflected within the display screen and ambient light transmitted into the display screen.

1 22. The article of claim 21, wherein the absorbed light at least comprises emitted light
2 reflected backwards within the display screen prior to absorption.

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1 23. The article of claim 21, wherein said holographic film patches include adjacent
2 structures formed therein to trap at least some incident light.

1 24. The article of claim 21, wherein absorbed light at least comprises both emitted light
2 reflected within the display screen and ambient light transmitted into the display screen.

1 25. The article of claim 20, wherein display screen further having a structure so that at least
2 some light propagating within said layer is reflected by one or more of said holographic film
3 patches.

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